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How Does Acquisition Experience Affect Managerial Career Outcomes?

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Abstract

We use hand-collected data from acquisition press releases to investigate how acquisition experience affects the career outcomes of non-CEO senior managers. To address the non-random nature of gaining experience, we separately use manager and firm-year fixed effects, as well as an instrumental variable analysis. Acquisition experience is positively related to compensation, the likelihood of a future board seat, and the likelihood of promotion to chief executive officer. Further tests suggest that the effects of experience decay over time, have diminishing returns, and do not depend on deal quality. Finally, we search Securities and Exchange Commission filings to document novel information on managerial roles in mergers and acquisitions.

I. Introduction

At least since Becker (1962), economists have acknowledged the importance of human capital. Recently, they have begun to investigate how professional experience and on-the-job training (i.e., accumulation of human capital) affect firm managers (e.g., Dittmar and Duchin (2016), Ellis, Guo, and Mobbs (2020)). Despite this recent evidence on experience and decision-making, economists still know relatively little about how experience affects labor market outcomes, especially for lower-ranking managers. In this paper, we examine the labor market for senior managers (SMs) below the CEO level. While the labor market for these managers is active, the process by which they are evaluated is an unresolved issue (Fee and Hadlock (2004)).[1] A clear understanding of SM labor markets and the incentives they provide is important because recent

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[1]Fee and Hadlock ((2004), pp. 35–36) state, "A remaining unresolved issue concerns the process by which the internal and external labor markets evaluate non-CEO managerial personnel. […] [I]t would be informative to know what factors are important in this evaluation process and the consequent incentive implications." Cichello, Fee, Hadlock, and Sonti (2009) provide evidence on how

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studies find that SMs can have large effects on firm policies and outcomes.[2] Further, the market for non-CEO SMs functions differently than that for CEOs (Fee and Hadlock (2003)). Thus, we help to shed light on human capital formation and its implications for the careers of SMs.

To investigate the value of experience, we build an unbalanced panel of 51,166 observations of SMs at Standard & Poor's (S&P) 1500 firms from 2000 to 2012. SMs in our sample are broadly classified as vice president, president, group head, or chief operating officer (COO). A key challenge in studying human capital formation is that the econometrician does not often view the timing of skill accumulation. To overcome this challenge, we create a unique data set that captures SM involvement in mergers and acquisitions (M&As) by recording the names of SMs in press releases announcing 3,146 acquisitions. Using this data set, we answer a number of questions. What is the impact of M&A experience on SM compensation, number of board seats, and promotion to CEO? Is the impact of M&A experience permanent or does it fade over time? How do deal quantity and deal quality matter in labor markets? Finally, what do managers do in acquisitions?

We hypothesize that M&A experience is valuable in managerial labor markets because it increases human capital (e.g., Fama (1980), Zingales (2000)). Using hand-collected data, we find that SMs are involved in many aspects of M&As, including exploratory talks with targets, negotiation and valuation, due diligence, integration, and interacting with investment banks and the board of directors. Through M&A involvement, SMs will increase firm-specific human capital (skills that are valuable within the firm) and general human capital (skills that are transferable across firms). A number of recent studies suggest that general managerial skills are highly valued in the labor market for executives (Murphy and Zabojnik (2004), (2007), Custodio, Ferreira, and Matos (2013)). We predict that managers who gain M&A experience will be more highly compensated, more likely to be appointed to a board of directors, and more likely to be promoted to CEO.

An important concern in our analysis is that SMs do not gain M&A experience randomly. Unobserved differences in SMs or in firms could explain both the likelihood of working on a merger and success in a manager's career. To rule out alternative explanations, we use 2 sets of fixed effects to create counterfactual comparisons for experienced SMs. First, we use SM fixed effects to control for time-invariant, unobserved differences between SMs. These tests help to rule out a simple differences-in-ability story (insofar as ability is fixed in our panel) because they examine the impact of M&A experience on a given manager's career. In this framework, the coefficients are identified by comparing career outcomes before and after gaining experience. Second, we use firm-year fixed effects to control for time-varying differences in firms. These tests help rule out any firm, industry, or labor market differences because they examine the impact of M&A experience across managers (within top management teams). The coefficients here are identified by

multidivision firms use performance metrics for promotion and turnover. We complement their study, focusing on a measure of SM experience and looking within and across firms.

[2]See, for example, Chava and Purnanandam (2010), Jiang, Petroni, and Wang (2010), Kim, Li, and Zhang (2011), and Malmendier, Pezone, and Zheng (2019).

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comparing an experienced manager's outcomes to those of peers who plausibly could have gained experience but did not.

Broadly, we find that M&A experience is positively related to compensation, the likelihood of gaining a board seat, and the likelihood of promotion to CEO. With SM fixed effects, we find that M&A experience increases total compensation by 7.4%, with the increase driven primarily by increases to base salary. Next, we find that M&A experience increases the likelihood of gaining a board seat by 6.3%, which is two-thirds of the unconditional mean in the sample. We also find that experience increases the likelihood of gaining both internal board seats (at the SM's employer) and external board seats (at other firms). The latter result provides evidence that M&A experience increases general human capital. We find that the marginal effect of M&A experience on the likelihood of promotion to CEO is 5.1% (double the unconditional mean). The results using firm-year fixed effects are also significant and have larger economic magnitudes.

To further address time-varying differences between managers, we conduct 2 additional tests within the fixed effects specifications, adding proxies for ability and visibility in the labor market and conducting an instrumental variable analysis. Our instrument is the percentage of SM peers (based on job title) that gain M&A experience in the previous 2 years. The instrument satisfies the relevance condition because the probability of merger involvement varies with the SM's position in the corporate hierarchy. To satisfy the exclusion condition, we use lagged data from non-industry peers, which sidesteps the fact that labor outcomes (e.g., pay) are often benchmarked within industries. In these tests, we continue to find a positive relation between experience and labor market outcomes, which suggests that this relation is quite robust.

Our next series of tests examines how M&A experience matters by splitting our main indicator variable along various dimensions reflecting the timing of the M&A experience as well as the quantity and quality of the experience. First, we split our main experience variable into bins based on how long ago the manager was involved in a deal, and we find that experience is most strongly related to career outcomes when the deal occurred in the last 4 years, though we find some significant coefficients for involvement more than 8 years ago. Thus, it appears that the positive effects of M&A experience on SM labor market outcomes decay over time. Next, we examine how labor market outcomes are associated with the quantity and quality of the deals in which SMs are involved. Using a count of deals in which an SM is involved and its square, we find diminishing returns to experience. Using the acquirer's announcement period cumulative abnormal returns (CARs) and deal value as proxies for deal quality, we find that SM labor market outcomes are positively correlated with SM experience whether the deal creates or destroys value and in both large and small deals.

Our final set of tests uses hand-collected data from merger backgrounds to examine how the degree of SM involvement in the deal affects labor market outcomes. We first provide new evidence on the roles SMs take in acquisitions and find that SMs often conduct exploratory talks with potential targets, help with negotiations, and perform due diligence. Less commonly, they interact with investment banks, plan for integration, and interface with the board of directors. While performing 1 or more of those tasks, SMs are involved in approximately 80% of the

total span (number of days) of deal discussions, on average. In multivariate tests, we find greater increases in labor market outcomes when SMs are involved in more facets of the deal or are involved with the deal for a greater amount of time. To our knowledge, we are the first to document the roles SMs play in acquisitions and the correlations of these activities with labor market outcomes.

Overall, the results seem most consistent with a world in which deal participation conveys valuable experience and skills. These skills decay or become obsolete over time, however. Further, deal experience carries diminishing marginal returns and positive outcomes regardless of the success or size of the deal. We also find that when SMs are more involved in a deal, their labor market rewards are greater. We note that these results are difficult to reconcile with an ability explanation, which does not predict decay over time or diminishing marginal returns. Therefore, we interpret our results on the whole as inconsistent with an ability story.

We contribute to a new literature on skill accumulation through professional experience. Ellis et al. (2020) find that directors with turnover experience have higher turnover sensitivity to firm performance. Dittmar and Duchin (2016) find that CEOs with distress experience tend to use less debt financing and save more cash, consistent with prior experience changing CEOs' policies. In a closely related paper, Harford and Schonlau (2013) find that director labor markets value CEOs with acquisition experience, regardless of whether the acquisition creates value for shareholders. Our work extends theirs by focusing on non-CEO managers, who might be evaluated differently than CEOs. Because we examine SMs, we can investigate compensation and promotion along with directorships and compare career outcomes both within managers and within top management teams. In addition, we conduct tests to examine the quantity and timing of the experience.

We also contribute to the literature on labor market rewards for non-CEO SMs. In contrast to the large literature on CEO labor markets, the inner workings of SM labor markets are relatively underexplored. Mian (2001) and Gillan and Nguyen (2017) examine the labor market for CFOs. Fee and Hadlock (2003), (2004) document an active labor market for non-CEO executives, which operates differently than the market for CEOs. Johnson, Kolasinski, and Nordlund (2018) find that turnover of non-CEO executives is greater if the firm's CEO is narcissistic. Mobbs (2013) examines the promotion of SMs to CEO for a sample of SMs who already hold directorships at their current firm. Our paper contributes to this literature by studying a range of labor market outcomes for a large panel of SMs at non-financial firms.[3]

Finally, we broadly connect to the large amount of literature on compensation, boards of directors, and promotion to CEO. Datta and Iskandar-Datta (2014) study CFO compensation and Duchin, Goldberg, and Sosyura (2017) examine peer effects in divisional manager compensation. Much previous work focuses on the current construction of firms' boards of directors and examines the presence of SMs

[3]Several recent papers examine the career paths of non-CEO employees in the financial industry. Griffin, Kruger, and Maturana (2019) examine labor market rewards for individuals who are involved in underwriting and issuing residential mortgage–backed securities and find essentially no discipline of these individuals. Egan, Matvos, and Seru (2019) examine misconduct among financial advisers from 2005 to 2015 and find that firms discipline misconduct by firing those involved, but many of these advisors are later hired by smaller, less reputable firms.

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(Boone, Field, Karpoff, and Raheja (2007), Linck, Netter, and Yang (2008), Coles, Daniel, and Naveen (2008), and Masulis and Mobbs (2011)). We take a different approach than this previous work by building a panel of SMs, unconditional on labor market outcomes, and examining which SMs gain board seats. We believe that our study is the first to document evidence on the role of M&A experience in SMs gaining board seats. Last, we add to the literature on promotion to CEO (e.g., Parrino (1997), Fee and Hadlock (2003), and Mobbs (2013)).

II. Data, Empirical Framework, and Predictions

A. Experience Measure

M&As are a discrete firm investment, which allow us to plausibly measure the timing of managerial skill accumulation. To identify managers involved in M&As, we first use Thomson Reuters Securities Data Company (SDC) Platinum database to identify M&As announced between 2000 and 2013 involving public acquirers and public, private, or subsidiary targets. Both the acquirer and the target must be headquartered in the United States. We exclude recapitalizations, leveraged buy-outs, repurchases, buybacks, exchange offers, acquisitions of partial interest, and acquisitions of remaining interest. The acquirer must own less than 15% of the target's stock prior to the transaction and 100% afterward. The deal value must be at least $50 million and at least 1% of the acquirer's pre-announcement market value of equity. Acquirers in the financial or utility industries are excluded, and acquirers must have data in the Compustat, ExecuComp, and Center for Research in Security Prices databases. These restrictions leave us with a sample of 3,146 deals.

Next, we search LexisNexis for press releases and other news articles at the time of the announcement and record the names and titles of acquirer executives appearing in the press release.[4] We can locate a press release or other announcement article for 2,759 deals. When an SM's name appears in the press release (or other news article), we view this as SM involvement in the merger and, thus, M&A experience gained by the SM. We find evidence of SM involvement in 818 of the 2,759 deals. We hand match SM names in press releases to those in ExecuComp. About 75% of the SM names from articles can be matched to an EXECID. SMs are coded as having M&A experience during a given fiscal year if the merger is completed prior to the fiscal year end (Date Effective from the SDC is prior to DATADATE from Compustat). For these SM-years and all following fiscal years, the dummy variable M&A_EXPERIENCE is set to 1. Thus, M&A_EXPERIENCE captures the entire stock of experience gained over time. In 1,175 SM-years of our final panel, the SM is considered experienced. In Section V, we refine our measure to examine more specifics about SM involvement.

[4]We focus on press releases (from PR Newswire and Business Wire) as our main source of data because firms write the press releases (Ahern and Sosyura (2014)) and therefore we know that firms (rather than journalists) are including the executives' names. However, to be thorough in our search, we also read news articles close to the announcement of the deal from the Associated Press, Daily Deal, New York Times, local newspapers, and trade publications.

TABLE 1

Summary Statistics

Table 1 shows summary statistics for all the variables in our study. We collect a sample of senior managers (SMs) in ExecuComp from 2000 to 2012. We collect press release data to determine merger and acquisition (M&A) experience (M&A_EXPERIENCE). Our final sample includes 51,116 observations at the SM-firm-year level. The sample includes 14,841 unique SMs at 2,045 unique firms. Detailed variable definitions are provided in the Appendix.

	N	Mean	Std. Dev.	25th Percentile	Median	75th Percentile
M&A_EXPERIENCE	51,166	0.023	0.150	0	0	0
TOTAL_COMPENSATION	51,166	$1,646.00	$2,008.92	$ 533.70	$ 968.60	$1,892.67
BONUS	51,166	$ 349.78	$ 453.88	$ 72.79	$ 207.14	$ 441.31
SALARY	51,166	$ 412.59	$ 201.53	$ 278.41	$ 368.17	$ 505.13
STOCK_AND_OPTIONS	51,166	$ 776.74	$1,507.14	$ 0.00	$ 233.03	$ 823.54
OTHER_COMPENSATION	51,166	$ 69.69	$ 140.08	$ 7.85	$ 23.86	$ 66.75
BOARD_SEAT	51,166	0.093	0.290	0	0	0
INTERNAL_BOARD_SEAT	51,166	0.054	0.226	0	0	0
EXTERNAL_BOARD_SEAT	51,166	0.033	0.178	0	0	0
CEO	51,166	0.026	0.159	0	0	0
SIZE	51,166	7.507	1.529	6.411	7.387	8.485
ROA	51,166	0.134	0.100	0.086	0.132	0.185
LEVERAGE	51,166	0.213	0.186	0.038	0.195	0.325
STOCK_PRICE_CHANGE	51,166	0.111	0.583	−0.225	0.037	0.31
MARKET_TO_BOOK	51,166	1.979	1.237	1.207	1.580	2.269
R&D	51,166	0.033	0.055	0	0.004	0.044
COO_OR_PRESIDENT	51,166	0.244	0.430	0	0	0
SM_ON_EARNINGS_CALL	38,742	0.189	0.392	0	0	0
EXECUCOMP_PAY_RANK	41,191	11.843	1.767	11	12	13
LAGGED_COMPENSATION	41,191	6.903	0.924	6.245	6.833	7.501

B. Sample of SMs

To build a sample of SMs for our analysis, we begin with S&P's ExecuComp database, which covers S&P 1500 firms, including former index members and client-requested firms. We exclude SMs who are CEOs, CFOs, and board chairs, as well as past CEOs of the firm, and SMs who were listed as CEO of any ExecuComp firm the previous year.[5] We exclude CFOs under the assumption that they are involved in all mergers in some capacity and, therefore, our proxy for M&A experience cannot be used for them. We require that SMs appear in ExecuComp in the following year to track promotion to the CEO position. We restrict the sample to fiscal years 2000–2012, which correspond to the deal announcement dates used to construct our proxy for M&A experience. We exclude observations from financial or utility firms (Standard Industrial Classification (SIC) codes 6000–6999 or 4900–4999) or where data necessary to construct independent variables are missing. Our final sample includes 51,116 observations at the SM-firm-year level. The sample includes 14,841 unique SMs at 2,045 unique firms.

C. Dependent Variables and Controls

Compensation data are from ExecuComp and are adjusted for inflation as well as changes in reporting requirements (Kini and Williams (2012), Coles, Daniel, and Naveen (2014)). Table 1 shows that the mean of TOTAL_COMPENSATION (TDC1) is $1.646 million. We divide TOTAL_COMPENSATION into

[5]We identify CFOs using CFOANN as well as by searching TITLEANN for CFO, Chief Financial Officer, Treasurer, Controller, or Finance. We identify Board Chairs by searching TITLEANN for Chairman, Chairwoman, or CHMN.

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4 components: SALARY, BONUS, STOCK_AND_OPTIONS, and OTHER_COMPENSATION. The Appendix details the construction of these variables. The means of these 4 components are $412,590, $349,780, $776,740, and $69,690, respectively. While STOCK_AND_OPTIONS has the greatest average value of the 4 components, SALARY has the greatest median value at $368,170.

We use Institutional Shareholder Services (ISS) data to collect data on SMs' future seats on boards of directors. We match SMs in ExecuComp to directors in ISS by hand. For each SM-year, the dummy variable BOARD_SEAT is set to 1 if the SM was a director at any public firm in the next year. Next, we divide BOARD_SEAT into separate indicators for board seats held in the next year at the firm in which the SM is employed (INTERNAL_BOARD_SEAT) or another firm (EXTERNAL_BOARD_SEAT). Table 1 shows the mean of BOARD_SEAT is 0.093, indicating that in 9.3% of observations, the SM held a board seat the following year. In untabulated results, we find that 8.4% of SMs hold at least 1 board seat in the current year while 6.9% held a board seat in the prior year. The mean of INTERNAL_BOARD_SEAT is 0.054, while the mean of EXTERNAL_BOARD_SEAT is 0.033, indicating that it is more common for SMs to hold board seats at the firm where they are employed than at other firms.[6]

We track SMs and identify those that are promoted to the CEO position at an ExecuComp firm in the following year. The dummy variable CEO is set to 1 for SMs who become the CEO at any ExecuComp firm in the following fiscal year. We find that 2.6% of SMs are promoted to CEO in the following year in the full sample. While the vast majority of promotions occur at the SM's current firm, there are some SMs who are promoted to CEO of other ExecuComp firms.

Firm financial statement data are from Compustat and all variables are defined in the Appendix. Table 1 shows that the average firm size is $7.507 billion in assets (SIZE). Return on assets (ROA) is 0.134 on average, while book leverage is 0.213 on average. The mean stock price change is 11.1% from the prior fiscal year, while the market-to-book ratio is 1.979 on average. The mean of R&D divided by total assets is 0.033, while the median is 0.004. We follow Naveen (2006) and proxy for heir apparent status of SMs by the title COO or president. In 24.4% of our observations, the SM is considered an heir apparent to the CEO.[7]

D. Empirical Framework

Managers do not gain experience randomly. Our questions on SM labor outcomes contain several layers of endogeneity, for example, whether to undertake a merger and which managers will work on which aspects of a given merger. CEOs may give high-ability SMs the opportunity to participate in an acquisition, and their high ability is subsequently reflected in better career outcomes, creating a spurious relation between experience and career outcomes. To rule out unspecified

[6]Note that INTERNAL_BOARD_SEAT and EXTERNAL_BORD_SEAT can both be set to 1 for observations where the SM has multiple board seats (<1% of all observations).

[7]The average age of SMs is 50.9 years. However, only 30,004 observations have non-missing age (59% of our sample). Table IA1 in the Supplementary Material shows that our main baseline results hold when including age. We have data on tenure for only 13,952 observations (27% of our sample), yet we still find strong results in several specifications.

alternative explanations driven by differences in managers or firms, we use 2 sets of high-level fixed effects to create plausible counterfactuals for the managers that gain experience in our sample.

Our first approach uses SM and year fixed effects to control for any time effects and time-invariant SM heterogeneity. These specifications compare the same SM before and after gaining experience. Insofar as ability is fixed over time, or at least fixed over the length of our panel, these models rule out an ability explanation. The first specification is represented by the equation

$$\text{Labor Market Outcome}_{i,j,t} = \beta_1 \times \text{M\&A_EXPERIENCE}_{i,t} + \beta_2 \times X + \nu_i + \delta_t + \varepsilon_{i,j,t}, \quad (1)$$

where the dependent variable is a labor market outcome, that is, compensation, board seats, or promotion, for manager i at firm j in time t. The coefficient β_1 in equation (1) estimates the impact of M&A experience on labor market outcomes. The SM fixed effects are represented by ν_i and the year fixed effects by δ_t. The vector of control variables, X, includes COO_OR_PRESIDENT, which proxies for the seniority of the SM as well as heir apparent status, and the following firm-level control variables: SIZE, ROA, LEVERAGE, STOCK_PRICE_CHANGE, MARKET_TO_BOOK, and R&D.

Our second approach uses firm-year fixed effects, which help to control for firm and CEO characteristics as well as labor and financial market conditions. In general, these fixed effects help absorb any time-varying, firm-level differences. Thus, our coefficients essentially compare the outcomes of experienced managers to the outcomes of managers at the same firm at the same time who could have gained experience but did not. This second specification is represented by the equation

$$\text{Labor Market Outcome}_{i,j,t} = \gamma_1 \times \text{M\&A_EXPERIENCE}_{i,t} + \gamma_2 \times \text{COO_OR_PRESIDENT}_{i,t} + \lambda_{j,t} + \varepsilon_{i,j,t} \quad (2)$$

for manager i at firm j in time t. The coefficient γ_1 in equation (2) estimates the impact of M&A experience on labor market outcomes. The regressions include COO_OR_PRESIDENT as the only other control because all other controls are subsumed by the fixed effects.

Note that the specifications with SM fixed effects naturally restrict the sample to SMs with 2 or more observations. Firm-year fixed effects restrict the sample to firm-years with 2 or more managers. Because of the large number of fixed effects, we use linear probability models (LPMs) instead of probit models for the board seats and promotion tests (Greene (2004)). To help address correlation in the error term within firms, including within and across managers, we cluster standard errors by firm (Petersen (2009), Cameron and Miller (2015)).

We predict that increases to human capital through M&A experience result in positive coefficients on β_1 and γ_1 in estimations of equations (1) and (2). General managerial skills through M&A experience will be rewarded both in the internal and external labor markets, and firm-specific skills will be rewarded internally. Thus, we expect experienced managers to have an increased market wage

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(Datta and Iskandar-Datta (2014)), a greater chance of an appointment to the board of directors, and greater likelihood of promotion to CEO.

One final note is that, by construction, β_1 and γ_1 capture the total effect of experience on the outcome variables. That is, in a world in which M&A experience is valuable, it is plausible to think that experience shifts compensation, the probability of a board seat, and the probability of promotion simultaneously, and these effects likely reinforce each other. For example, we expect experience to be directly rewarded with an increase in board seats, but we also expect experience to increase the likelihood of promotion, which can increase board seats. The total effect of experience on board seats is represented by the sum of these direct and indirect effects. We are interested in and report the total effects but note that we find similar results if we attempt to tease out only the direct effects (see Table IA2 in the Supplementary Material).

III. M&A Experience and SM Labor Market Outcomes

A. SM Compensation

Table 2 displays results from regressions of SM compensation on M&A experience. Panel A displays results from estimating equation (1), which includes SM and year fixed effects, and Panel B displays results from estimating equation (2), which includes firm-year fixed effects (Tables 3–9 are structured similarly). In column 1, the dependent variable is the natural log of TOTAL_COMPENSATION; then, in columns 2–5, we examine the log of compensation components. Standard errors, clustered by firm, are shown in parentheses below coefficient estimates. We find a positive and significant relation between M&A_EXPERIENCE and several measures of SM compensation.[8] With SM fixed effects, we find a positive and statistically significant effect of M&A experience on total compensation in column 1 and on salary in column 3. In column 1, the coefficient on M&A_EXPERIENCE is 0.071 (t-stat. = 1.821), indicating that total compensation is 7.36% (exp(0.071) − 1) greater for a given SM after gaining M&A experience. In column 3, the coefficient on M&A_EXPERIENCE is 0.089 (t-stat. = 4.450), indicating that salary is 9.31% greater for a given SM after gaining M&A experience. When we use firm-year fixed effects, all the coefficients on M&A_EXPERIENCE are positive and significant at the 5% level or better, except in column 5 when examining ln(OTHER_COMPENSATION). Thus, an SM who gains experience receives 16.3% greater total compensation than SMs at the firm who did not gain experience. Overall, Table 2 documents large, economically significant gains in compensation for SMs with M&A experience.

These results suggest that although there is a significant compensation benefit to experience between SMs, there is also a large SM-specific component to compensation. The economic significance is greater in Panel B when including firm-year fixed effects than in Panel A when including SM fixed effects

[8]Results are broadly similar if corrected for the backfilling bias in ExecuComp using the methodology in Gillan, Hartzell, Koch, and Starks (2017); see Table IA3 in the Supplementary Material.

TABLE 2

Compensation and M&A Experience

Table 2 displays results from regressing senior manager (SM) compensation on a set of controls and our experience indicator: M&A_EXPERIENCE equals 1 if the SM's name is included in a press release for a deal that closes prior to the given fiscal year end. Each column head indicates the compensation measure used as the dependent variable. Panel A (B) includes SM and year (firm-year) fixed effects. Standard errors are clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels. Variable definitions are provided in the Appendix.

	ln(TOTAL_ COMPENSATION)	ln(BONUS)	ln(SALARY)	ln(STOCK_ AND_OPTIONS)	ln(OTHER_ COMPENSATION)
	1	2	3	4	5
Panel A. SM and Year Fixed Effects					
M&A_EXPERIENCE	0.071*	−0.123	0.089***	0.140	−0.028
	(0.039)	(0.089)	(0.020)	(0.189)	(0.064)
SIZE	0.211***	0.540***	0.041***	0.153	0.155***
	(0.019)	(0.063)	(0.009)	(0.095)	(0.038)
ROA	0.950***	6.340***	0.095***	1.056***	0.283**
	(0.089)	(0.364)	(0.035)	(0.389)	(0.139)
LEVERAGE	−0.171***	−0.887***	0.007	−0.136	−0.066
	(0.062)	(0.225)	(0.023)	(0.294)	(0.105)
STOCK_PRICE_CHANGE	0.018**	0.391***	−0.006**	−0.047	−0.012
	(0.008)	(0.026)	(0.003)	(0.037)	(0.012)
MARKET_TO_BOOK	0.065***	0.140***	−0.003	0.073*	0.047***
	(0.009)	(0.024)	(0.003)	(0.038)	(0.012)
R&D	−0.136	−0.577	0.125	−0.589	0.223
	(0.286)	(0.899)	(0.127)	(1.485)	(0.440)
COO_OR_PRESIDENT	0.323***	0.180***	0.128***	1.386***	0.146***
	(0.014)	(0.039)	(0.007)	(0.071)	(0.023)
Fixed effects	SM and year	SM and year	SM and year	SM and year	SM and year
No. of obs.	46,942	46,942	46,942	46,942	46,942
Adj. R^2	0.735	0.480	0.782	0.429	0.710
Panel B. Firm-Year Fixed Effects					
M&A_EXPERIENCE	0.151***	0.149***	0.112***	0.192**	0.051
	(0.025)	(0.047)	(0.016)	(0.090)	(0.047)
COO_OR_PRESIDENT	0.616***	0.420***	0.307***	1.698***	0.350***
	(0.012)	(0.019)	(0.007)	(0.042)	(0.020)
Fixed effects	Firm-year	Firm-year	Firm-year	Firm-year	Firm-year
No. of obs.	49,695	49,695	49,695	49,695	49,695
Adj. R^2	0.659	0.768	0.587	0.536	0.610

(16.3% vs. 7.36%), which potentially sheds light on the role of unobservables. For example, if SMs who gain experience also tend to be of higher ability, then the results in Panel B might capture both the difference in ability and the difference related to experience. Insofar as differences between managers are relatively fixed, the results in Panel A help us address these differences and isolate the effect of experience.

B. Board Seat Analysis

Table 3 displays the results from LPMs where the dependent variables are measures of whether an SM has a board seat in the next year. In column 1, the dependent variable includes all board seats, while in columns 2 and 3, we change the measure to capture only internal (i.e., at the SM's employer) and external (i.e., at other firms) board seats, respectively. We restrict our sample to SMs who had no board seat prior to the acquisition because the number of board seats tends to be sticky (once elected to a board, directors tend to remain for several years) and

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TABLE 3

Board Seats and M&A Experience

Table 3 displays results from LPM regressions, where the dependent variable is an indicator equal to 1 if the senior manager (SM) sits on a board. M&A_EXPERIENCE equals 1 if the SM's name is included in a press release for a deal that closes prior to the given fiscal year end. We restrict the sample to managers with 0 board seats in the prior year. Panel A (B) includes SM and year (firm-year) fixed effects. Standard errors are clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels. Variable definitions are provided in the Appendix.

	BOARD_SEAT	INTERNAL_ BOARD_SEAT	EXTERNAL_ BOARD_SEAT
	1	2	3
Panel A. SM and Year Fixed Effects			
M&A_EXPERIENCE	0.063***	0.034***	0.030***
	(0.018)	(0.013)	(0.011)
SIZE	0.010**	0.009***	0.000
	(0.004)	(0.003)	(0.003)
ROA	0.018	−0.002	0.004
	(0.015)	(0.013)	(0.008)
LEVERAGE	−0.018	−0.008	−0.015**
	(0.011)	(0.008)	(0.006)
STOCK_PRICE_CHANGE	0.000	−0.001	0.000
	(0.001)	(0.001)	(0.001)
MARKET_TO_BOOK	0.003*	0.003**	0.000
	(0.002)	(0.001)	(0.001)
R&D	−0.062	−0.074*	0.015
	(0.054)	(0.040)	(0.037)
COO_OR_PRESIDENT	0.030***	0.020***	0.005*
	(0.005)	(0.004)	(0.003)
Fixed effects	SM and year	SM and year	SM and year
No. of obs.	43,548	43,548	43,548
Adj. R^2	0.398	0.379	0.353
Panel B. Firm-Year Fixed Effects			
M&A_EXPERIENCE	0.043***	0.026***	0.013
	(0.014)	(0.010)	(0.009)
COO_OR_PRESIDENT	0.077***	0.055***	0.016***
	(0.005)	(0.004)	(0.003)
Fixed effects	Firm-year	Firm-year	Firm-year
No. of obs.	45,669	45,669	45,669
Adj. R^2	0.053	0.033	0.040

because SMs may be limited in the number of board seats they can hold (either by time constraints or by firm policies). The results are similar if we remove this restriction (see Table IA4 in the Supplementary Material).

We find that M&A experience is positively related to the probability that an SM sits on a board as the coefficients on M&A_EXPERIENCE in column 1 of Panels A and B are both statistically significant at the 1% level. Thus, experience seems to matter both within and across managers. The results are also economically meaningful; in Panel A, the coefficient suggests that experience is associated with an increase of 6.3% in the likelihood of gaining a board seat, relative to the pre-experience baseline. The magnitude is quite large, given the unconditional mean of obtaining a board seat in the future of 9.3% in our sample.

A nice feature of the board seat data is that we can separately examine internal and external board appointments, as we do in columns 2 and 3. We find a positive association between M&A_EXPERIENCE and future internal board seats in both panels, and we find a positive association with future external board seats in Panel A. The economic magnitudes of these relations are again large. For example,

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TABLE 4

Promotion to CEO and M&A Experience

Table 4 displays results from LPM regressions, where the dependent variable is an indicator equal to 1 if a manager becomes CEO next year. M&A_EXPERIENCE equals 1 if the SM's name is included in a press release for a deal that closes prior to the given fiscal year end. In the second column, we restrict the panel to SMs who experience a CEO turnover in our sample. Panel A (B) includes SM and year (firm-year) fixed effects. Standard errors are clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels. Variable definitions are provided in the Appendix.

	DV: CEO	Turnover Subsample
	1	2
Panel A. SM and Year Fixed Effects		
M&A_EXPERIENCE	0.051***	0.088***
	(0.013)	(0.024)
SIZE	−0.007**	−0.001
	(0.003)	(0.006)
ROA	0.013	0.020
	(0.012)	(0.023)
LEVERAGE	0.011	0.012
	(0.009)	(0.015)
STOCK_PRICE_CHANGE	−0.001	−0.002
	(0.001)	(0.002)
MARKET_TO_BOOK	−0.001	−0.002
	(0.001)	(0.002)
R&D	0.010	0.048
	(0.045)	(0.089)
COO_OR_PRESIDENT	−0.036***	−0.063***
	(0.005)	(0.008)
Fixed effects	SM and year	SM and year
No. of obs.	46,942	22,339
Adj. R^2	0.099	0.125
Panel B. Firm-Year Fixed Effects		
M&A_EXPERIENCE	0.040***	0.090***
	(0.009)	(0.018)
COO_OR_PRESIDENT	0.034***	0.077***
	(0.003)	(0.007)
Fixed effects	Firm-year	Firm-year
No. of obs.	49,695	20,041
Adj. R^2	−0.027	−0.116

column 3 of Panel A shows that an SM is 3.0% more likely to sit on an outside board after gaining experience, compared to the unconditional likelihood of 3.3% in the sample. The finding that SMs with M&A experience gain external board seats is evidence that experience increases general human capital because increases to firm-specific human capital are not valuable outside the firm. However, we cannot rule out increases in firm-specific human capital as a result of M&A experience due to the findings on internal board seats, and it is likely that M&A experience increases both types of human capital. In our later tables, we do not split by internal/external and instead report the effects on any board seat. Except where noted in the text, M&A experience is statistically significant in these internal/external split results, following the pattern displayed in Table 3.

C. Promotion to CEO

Table 4 displays the results from LPMs where the dependent variable (CEO) is an indicator variable equal to 1 if the SM is listed as CEO at any firm in ExecuComp next year, and 0 otherwise. In column 1, we run the model in our full sample, and in

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column 2, we focus on the subsample of SMs who experience a CEO turnover during their careers. We define turnover as any case where the CEO listed in ExecuComp changes from one year to the next.

We find a positive and statistically significant association between promotion to CEO and M&A experience. In column 1 of Panel A, the coefficient on M&A_EXPERIENCE is statistically significant at the 1% level (t-stat. = 3.923) and suggests that after gaining experience, the probability an SM is named CEO next year increases by 5.1%. This is almost a doubling of the unconditional probability of becoming CEO next year (2.6%). Perhaps unsurprisingly, the coefficient is slightly larger in the subsample of SMs who experience a CEO turnover during their careers, shown in column 2. The coefficients are similar with both sets of fixed effects, suggesting that experience greatly improves the odds of promotion to CEO both within and across managers.[9]

D. Extended Models

Though our SM fixed effects models absorb any heterogeneity that is fixed over our panel, one might nevertheless worry about time-varying differences between managers. To address this concern, we re-estimate compensation, board seat (either internal or external), and promotion regressions using 3 different proxies for heterogeneity across SMs. LAGGED_COMPENSATION is the natural logarithm of the prior year's total compensation. EXECUCOMP_PAY_RANK is a ranking based on this lagged pay variable, with the highest-paid (lowest-paid) executive at a given firm in a given year receiving the highest (lowest) value. SM_ON_EARNINGS_CALL is an indicator variable that equals 1 if the SM spoke on a quarterly earnings conference call in the given fiscal year.[10] We use conference call transcript data in Kubick and Lockhart (2017) and hand match speakers on calls to SM names in ExecuComp.[11] We note that these data do not include conference calls for M&As. In 19% of SM-years, the SM spoke on at least 1 call.

These variables help us address time-varying differences in managers that may not be fully captured by managerial fixed effects. For example, manager ability could change over time or be revealed to labor market participants over time. A manager's visibility and social network might also change over time from interacting with other firms, consultants, investment bankers, and the media. Time-varying compensation and conference call measures help us control for these

[9]We find a positive coefficient on COO_OR_PRESIDENT in Panel B, suggesting that across managers, COOs are more likely to be promoted to CEO than other SMs, consistent with Naveen (2006). However, Panel A shows a negative coefficient on COO_OR_PRESIDENT. This is likely because the specification includes manager fixed effects, and the COO indicator reports the average difference between COO and non-COO SM-years. Within managers, the probability of becoming CEO falls initially after promotion to COO because an SM is unlikely to be promoted to COO and then immediately to CEO. In untabulated results replicating Table 4, we find positive and statistically significant coefficients on lagged COO dummies as well as on a variable that measures the time since promotion to COO.

[10]We obtain similar results if we instead include the percentage of calls that the SM speaks on during the year. Conditional on speaking on at least 1 call during the year, the mean SM speaks on 74.7% of all calls during the year.

[11]We thank Brandon Lockhart for generously providing these data.

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TABLE 5

Experience is Related to Labor Outcomes: Additional Specifications

Table 5 displays results from regressions similar to those in Tables 2–4 but with additional SM-year-level variables. The proxies are pay rank, lagged compensation, and an indicator equal to 1 if the SM is on an earnings conference call in year *t*. Panel A (B) includes SM and year (firm-year) fixed effects. Standard errors are clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels. Variable definitions are provided in the Appendix.

	ln(TOTAL_COMPENSATION)	BOARD_SEAT	CEO	ln(TOTAL_COMPENSATION)	BOARD_SEAT	CEO
	1	2	3	4	5	6
Panel A. SM and Year Fixed Effects						
M&A_EXPERIENCE	0.080*	0.055***	0.045***	0.080*	0.055***	0.045***
	(0.042)	(0.021)	(0.016)	(0.042)	(0.021)	(0.016)
SM_ON_EARNINGS_CALL	0.110***	0.054***	0.076***	0.112***	0.054***	0.077***
	(0.016)	(0.008)	(0.007)	(0.016)	(0.008)	(0.008)
EXECUCOMP_PAY_RANK	0.015***	0.004***	0.003***			
	(0.003)	(0.001)	(0.001)			
LAGGED_COMPENSATION				0.024**	0.008***	0.002
				(0.012)	(0.003)	(0.002)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	SM and year	SM and year	SM and year	SM and year	SM and year	SM and year
No. of obs.	28,096	25,990	28,096	28,096	25,990	28,096
Adj. R^2	0.773	0.398	0.130	0.773	0.398	0.130
Panel B. Firm-Year Fixed Effects						
M&A_EXPERIENCE	0.063***	0.027*	0.022**	0.048***	0.028*	0.022**
	(0.019)	(0.016)	(0.010)	(0.017)	(0.016)	(0.010)
SM_ON_EARNINGS_CALL	0.130***	0.076***	0.071***	0.129***	0.078***	0.073***
	(0.010)	(0.007)	(0.005)	(0.010)	(0.007)	(0.005)
EXECUCOMP_PAY_RANK	0.124***	0.010***	0.011***			
	(0.004)	(0.001)	(0.001)			
LAGGED_COMPENSATION				0.413***	0.026***	0.030***
				(0.016)	(0.003)	(0.003)
Control	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Firm-year	Firm-year	Firm-year	Firm-year	Firm-year	Firm-year
No. of obs.	29,122	26,486	29,122	29,122	26,486	29,122
Adj. R^2	0.825	0.076	0.030	0.836	0.074	0.027

potential issues. To the degree that differences in ability or seniority are priced into compensation, including pay rank or lagged compensation in our regressions helps control for these differences. SMs who speak on conference calls are more visible in the labor market (to recruiters, external boards, etc.). In addition, we expect SMs who reveal themselves as high ability to be more likely to speak on conference calls.

Table 5 displays the results from repeating our earlier regressions with the addition of these new variables. The sample size drops because of missing data on conference call participation and missing lagged variables. The dependent variables are listed at the top of each column and include ln(TOTAL_COMPENSATION), BOARD_SEAT, and CEO. Every model includes SM_ON_EARNINGS_CALL, while the first 3 columns include EXECUCOMP_PAY_RANK and the next 3 columns include LAGGED_COMPENSATION. We find that the coefficients on M&A_EXPERIENCE continue to be positive and statistically significant in both panels with these additional controls for SM differences.

Interestingly, the coefficients in the specifications with SM fixed effects (Panel A) are comparable to those in our baseline regressions (Tables 2–4). Thus, SM fixed effects seem to be doing a reasonable job controlling for differences

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between managers and adding time-varying controls to the specification does not change the results. However, the coefficients in the specifications with firm-year fixed effects (Panel B) are about half the magnitude of those in our baseline regressions, suggesting that these variables help address differences between managers not addressed in the baseline firm-year specifications.

Despite all these controls, one might be concerned that a manager who is privately chosen as a firm's next CEO is also systematically involved in M&As. Thus, the labor market rewards that we observe would be coming from the CEO or Board's private assessment of the SM (i.e., an omitted variable) rather than M&A experience. We find this explanation unlikely because the vast majority of SMs with experience do not become CEO (only about 10% of SMs are promoted to CEO within 5 years of gaining M&A experience). Thus, the potential to become CEO is unlikely to be the primary driver of an SM gaining M&A experience. In addition, the omitted variable problem described previously will be mitigated for external labor market rewards (e.g., external board seats), because outside firms do not have private signals about SM quality.

E. Instrumental Variable

Finally, to further address the possibility that unobserved differences between managers drive both the likelihood of gaining experience and labor market outcomes, we use an instrument for SM experience. Our instrument is the percentage of an SM's non-industry peers who gained M&A experience in the previous 2 years.[12] We define peer by title (COO, senior vice president, etc.) and we define industry by the Fama–French 49 classifications.[13] For the instrument to be valid, it must satisfy the exclusion and relevance conditions. The instrument is relevant because the probability of merger involvement varies with the SM's position in the corporate hierarchy.[14] In our sample, for instance, senior vice presidents are involved in mergers about twice as often as vice presidents are, on average. So, the instrument gains its relevance through being an estimate of the global, non-industry peer base rate of M&A involvement. As we discuss more subsequently, the data suggest the instrument is relevant, with a strong first-stage coefficient and a large under-identification F-statistic.

The instrument must also satisfy the exclusion restriction, which states that peer involvement can affect second-stage outcomes only through its effect on SM involvement. This is not testable, however, and we must appeal to economic logic. The use of lagged data from non-industry peers helps to alleviate many of the

[12]We thank the referee for suggesting this instrument to us.

[13]We standardize ExecuComp SM titles to facilitate a title match by dropping the highly detailed, company-specific title details and putting the titles into buckets (similar to Aggarwal and Samwick (2003)). We use a simple algorithm to put titles into the following groups: COO, divisional CEO, other C-level, president, senior/executive vice president, vice president, and general counsel or other legal. Our results are similar if we use pay ranks to define peers and Standard Industrial Classifications for industry.

[14]Note that SM, deal, and firm characteristics are surely important in determining SM involvement, but our instrument is relevant because the base rate of merger involvement increases as an SM becomes more senior.

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TABLE 6
Instrumental Variable Analysis

Table 6 displays results from an instrumental variable analysis using 2-stage least-squares regressions. In the first stage (shown in columns 1 and 2), we regress our experience indicator on the percentage of focal-SM peers involved in a merger in the previous 2 years. We define peers as SMs with the same title who work in different Fama–French industries. The second stage regressions (shown in columns 3–5) use our SM outcomes as dependent variables and instrumented experience as the main independent variable of interest. In Panel A (B), the regressions include SM and year (firm-year) fixed effects. We use the same vector of controls as the other tables, but the coefficients are not reported. Standard errors are clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels. Variable definitions are provided in the Appendix.

	2SLS: First Stage	No seats t−1	ln(TOTAL_ COMPENSATION)	BOARD_ SEAT	CEO
	1	2	3	4	5
Panel A. SM and Year Fixed Effects					
% of non-FF49 title peers involved in 2-year window	0.367*** (0.110)	0.386*** (0.123)			
M&A experience (instrumented)			2.192* (1.231)	2.741*** (0.981)	4.742*** (1.494)
Controls	Yes	Yes	Yes	Yes	Yes
Fixed effects	SM and year	SM and year	SM and year	SM and year	SM and year
No. of obs.	36,624	33,497	36,624	33,497	36,624
Adj. R^2	0.658	0.648	−0.180	−2.875	−11.183
Kleibergen–Paap *F*-stat. (1st stage)	11.10	9.82	11.10	9.82	11.10
Panel B. Firm-Year Fixed Effects					
% of non-FF49 title peers involved in 2-year window	0.756*** (0.163)	0.670*** (0.166)			
M&A experience (instrumented)			10.182*** (2.229)	3.679*** (0.942)	4.473*** (0.994)
Control	Yes	Yes	Yes	Yes	Yes
Fixed effects	Firm-year	Firm-year	Firm-year	Firm-year	Firm-year
No. of obs.	38,331	34,293	38,331	34,293	38,331
Adj. R^2	0.103	0.121	−14.091	−6.446	−14.825
Kleibergen–Paap *F*-stat. (1st stage)	21.44	16.28	21.44	16.28	21.44

possible problems with satisfying the exclusion restriction (Gormley and Matsa (2014), Karpoff, Schonlau, and Wehrly (2017)). Consider if we did use industry peers to construct our instrument. In that case, increases in the industry-peer merger involvement rate could directly increase focal-SM outcomes (e.g., pay), because those outcomes are often benchmarked to industry peers (Bizjak, Lemmon, and Naveen (2008)). This effect would violate the exclusion restriction and render the instrument unusable. However, our instrument is, instead, based on non-industry peer merger involvement and is unlikely to have a direct link to focal-SM career outcomes. For example, it is difficult to think why past vice president merger involvement in the alcohol industry would directly increase pay for a vice president in the toy industry.

The results from the instrumental variable analysis are displayed in Table 6. Panel A (B) shows the results with SM and year (firm-year) fixed effects. Column 1 shows the first stage for the compensation and promotion models, regressing M&A_EXPERIENCE on the instrument and other controls. Column 2 shows the same regression but in a slightly smaller sample because we restrict to SMs without a board seat in the prior year for the board seat model. The coefficients on the instrument are positive and statistically significant. Moreover, they are

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economically meaningful: In column 1 of Panel A, a 1-standard-deviation change in the instrument corresponds to a 0.45-percentage-point change in SM experience, or 19.56% change from the mean. The under-identification Kleibergen–Paap Wald *F*-statistics range from 9.82 to 21.44 (with all but one above 10), suggesting this is not a weak instrument.[15] The economic significance and *F*-statistic are generally larger in Panel B with the firm-year fixed effects.

Columns 3–5 in both panels show the second stage, using instrumented experience as the key independent variable. In all the regressions, the coefficient on instrumented experience is positive and statistically significant. The economic magnitudes are slightly larger than (but similar to) those estimated in the other regressions. For example, in Panel A of Table 6, a 1-standard-deviation change in instrumented experience is associated with a 10.77-percentage-point increase in the likelihood of a board appointment (relative to a 6.3-percentage-point increase in Table 3). It is possible that these instrumental variable estimates do not apply to the full sample because they estimate a local average treatment effect. That is, a treatment effect for managers whose M&A involvement becomes more or less likely with changes in the instrument. In any case, the additional results addressing manager heterogeneity suggest a robust relation between experience and outcomes.

IV. Further Analysis of the Impact of M&A Experience

Section III shows that M&A experience matters for SM labor market outcomes. In this section, we examine how M&A experience matters by splitting our main indicator variable along various dimensions reflecting the timing of the M&A experience as well as the quantity and quality of the experience. A note of caution is that in these analyses, we are breaking apart our experience indicator, which has a large proportion of zeros in our panel; thus, there is the possibility of power issues.

A. M&A Experience over Time

In Table 7, we divide M&A_EXPERIENCE into 2-year bins based on the timing of the experience. We create the bins by comparing the date the deal closed (Date Effective in SDC) to the fiscal year end (DATADATE in Compustat). Then, we create an indicator that is set to 1 if the SM is named in the press release of a deal that closed 2 years or less from the end of the focal fiscal year. Next, we create indicators that are set to 1 for deals where the difference between the focal year end and deal closing is more than 2 years but less than or equal to 4 years, and so on.

Broadly, we find that experience is positively related to SM career outcomes for long periods of time after the merger, but the relation does seem to dissipate. Consider the first 2 rows of each panel, which capture experience earned less than 5 years ago. Nine out of twelve coefficients are positive and significant, suggesting that recent experience is positively related to labor outcomes both within and across SMs. On the other hand, the bottom 2 rows capture experience gained more than 6 years ago. Four out of twelve coefficients are significant, suggesting a less reliable positive relation between labor outcomes and experience as time passes. Overall,

[15] All the *F*-statistics are above 16 if we use a longer lookback window for peer merger involvement (e.g., 3 or 5 years). The second-stage results are also similar with these longer windows.

TABLE 7

M&A Experience Windows

Table 7 displays results from regressing senior manager (SM) labor market outcomes on experience and a set of controls. For this table, however, we break our experience indicator variable into a set of variables, depending on how long ago an SM gained experience. In Panel A (B), the regressions include SM and year (firm-year) fixed effects. We use the same vector of controls, but the coefficients are not reported. Standard errors are clustered by firm. *, **, and *** denote significance at the 10%, 5%, and 1% levels. Variable definitions are provided in the Appendix.

	ln(TOTAL_ COMPENSATION)	BOARD_ SEAT	CEO
	1	2	3
Panel A. SM and Year Fixed Effects			
M&A experience ≤ 2 years ago	0.093***	0.054***	0.039***
	(0.036)	(0.018)	(0.013)
M&A experience 2 < years ago ≤ 4	0.006	0.034	0.057***
	(0.049)	(0.024)	(0.018)
M&A experience 4 < years ago ≤ 6	−0.008	0.074**	0.051**
	(0.053)	(0.035)	(0.022)
M&A experience 6 < years ago ≤ 8	−0.041	0.209***	0.021
	(0.060)	(0.071)	(0.025)
M&A experience > 8 years ago	−0.050	0.237*	0.148**
	(0.071)	(0.139)	(0.075)
Controls	Yes	Yes	Yes
Fixed effects	SM and year	SM and year	SM and year
No. of obs.	46,942	43,548	46,942
Adj. R^2	0.735	0.399	0.100
Panel B. Firm-Year Fixed Effects			
M&A experience ≤ 2 years ago	0.177***	0.044**	0.030***
	(0.031)	(0.018)	(0.011)
M&A experience 2 < years ago ≤ 4	0.085**	0.022	0.052***
	(0.035)	(0.023)	(0.016)
M&A experience 4 < years ago ≤ 6	0.086**	0.001	0.038
	(0.041)	(0.040)	(0.025)
M&A experience 6 < years ago ≤ 8	0.133**	0.090	−0.013
	(0.059)	(0.083)	(0.027)
M&A experience > 8 years ago	0.030	0.071	0.112
	(0.132)	(0.080)	(0.070)
Control	Yes	Yes	Yes
Fixed effects	Firm-year	Firm-year	Firm-year
No. of obs.	49,695	45,669	49,695
Adj. R^2	0.659	0.053	−0.026

these results are consistent with a world in which skills gained through working on M&A are valuable, but these skills tend to decay over time.

B. Quantity of M&A Experience

In Table 8, we examine how the quantity of M&A experience influences labor market outcomes. To capture the relation between labor outcomes and quantity of experience, we change our experience variable from an indicator to a count, which measures the total number of deals in which the SM has participated in our sample. A positive coefficient on this variable indicates that labor market outcomes improve with each additional deal. Further, each regression includes the square of the number of deals to capture any non-linearity in the relation between labor outcomes and experience. A negative coefficient on this variable shows diminishing marginal returns to M&A experience. This may occur because there is only so much an SM can learn through the process and each additional deal is likely to entail less skill accumulation than the prior deal.

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TABLE 8

SM Labor Outcomes and M&A Experience Count Variable

Table 8 displays results from regressing senior manager (SM) labor market outcomes on a set of controls and the number of deals in which a manager has experience (and its square). Each column head shows the dependent variable. In Panel A (B), the regressions include SM and year (firm-year) fixed effects. We use the same vector of controls, but the coefficients are not reported. Standard errors are clustered by firm. *, **, and *** denote significance at the 1%, 5%, and 10% levels. Variable definitions are provided in the Appendix.

	ln(TOTAL_ COMPENSATION)	BOARD_SEAT	CEO
	1	2	3
Panel A. SM and Year Fixed Effects			
Number of deals	0.081*	0.078***	0.044**
	(0.046)	(0.021)	(0.020)
Number of deals squared	−0.017	−0.016***	−0.003
	(0.012)	(0.004)	(0.009)
Controls	Yes	Yes	Yes
Fixed effects	SM and year	SM and year	SM and year
No. of obs.	46,942	43,548	46,942
Adj. R^2	0.735	0.398	0.099
Panel B. Firm-Year Fixed Effects			
Number of deals	0.155***	0.060***	0.034**
	(0.030)	(0.018)	(0.014)
Number of deals squared	−0.022**	−0.017***	−0.003
	(0.009)	(0.004)	(0.007)
Control	Yes	Yes	Yes
Fixed effects	Firm-year	Firm-year	Firm-year
No. of obs.	49,695	45,669	49,695
Adj. R^2	0.659	0.053	−0.027

The results in Table 8 are largely consistent with diminishing returns to M&A experience. In both panels, we find positive coefficients on the number of deals and negative coefficients on the squared term. The coefficients continue to be economically meaningful as well. For example, in column 2, moving from 0 to 1 deal is associated with a 4.9% increase in the likelihood of a board seat, but moving from 1 to 2 deals increases this likelihood by only 1.5%.[16] We note that the squared term is insignificant in both of the promotion models, suggesting a linear relation between experience and promotion. We also want to point out that the distribution of deal involvement is skewed: 86% of managers with experience have been involved in 1 deal, 10% have been involved in 2 deals, and 4% have been involved in 3 or more deals. Nevertheless, there seems to be enough variation for these tests.

C. Quality of M&A Experience

We next examine how the quality of M&A experience influences labor market outcomes. Fee and Hadlock (2003) and Harford and Schonlau (2013) predict that firm performance can be used to assess managerial ability, suggesting that SMs who are associated with value-creating M&As will experience greater labor market rewards. However, Harford and Schonlau (2013) find that CEOs that make acquisitions are more likely to sit on boards of directors after they retire, regardless of whether the acquisitions create value for shareholders. They argue that this result

[16]For these marginal effects, we set all control variables and fixed effects at their means and evaluate the change in the likelihood of a board seat when the experience count changes from 0 to 1 and from 1 to 2.

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indicates that in the market for directors, experience is more important than ability. Similarly, we examine whether SMs receive labor market rewards for any deal, or only deals that are particularly large or successful. We use announcement period CARs as 1 proxy for deal quality. Returns are cumulated over the $(-1, +1)$ trading day window centered on the announcement of the acquisition. We estimate market model parameters over 240 trading days prior to the announcement, excluding the 60 days leading up to the announcement and requiring a minimum of 30 days of trading data. If more than 1 deal is completed, then we sum the returns to all deals. Like Harford and Schonlau (2013), we split experience by whether the acquirer had positive or negative CARs. Similarly, we use the total deal value of all past deals the SM was involved in as a proxy for deal complexity and prominence. We again split our experience variable, but this time into terciles based on the size of the deal in which the experience was earned.[17]

Table 9 displays the results from regressions where the experience indicator is replaced with the positive/negative split and the deal value split. For both Positive CAR and Negative CAR, 10 of the 12 coefficients are positive and significant across Panels A and B, suggesting that SMs are rewarded for deal experience irrespective of deal quality. With experience split by deal size, we also find that SMs generally have positive outcomes regardless of deal size. We perform *t*-tests for differences in the coefficients between the Positive CAR and Negative CAR indicators as well as between the top and bottom terciles of deal value. None of the differences is statistically significant. Thus, overall, SMs appear to gain valuable skills in merger participation regardless of deal size and regardless of whether the deal is value increasing or destroying.[18]

V. Background Experience Measure

While SM names appearing in M&A press releases appear to communicate non-specific involvement in a deal (and portend subsequent benefits), we would like to create a more refined measure of SM involvement in M&As. To that end, we search the "Background to the Merger" sections of Securities and Exchange Commission (SEC) filings and collect information on the timing and nature of the SM's involvement in the acquisition. These backgrounds are legally required to be accurate in their description of the transaction and provide valuable information about it. A typical background describes the events from the initial discussion of the merger to the date of the announcement, often including detailed information on meetings such as dates, locations, topics discussed, and names and titles of attendees.

To find backgrounds, we start with the sub-sample of 818 deals in which an SM gained experience. Backgrounds are available for nearly all deals involving

[17]Our results are similar if we instead use residual CARs (calculated by regressing CAR on a vector of deal and firm controls as in Bao and Edmans (2013)) or relative deal value (deal value divided by the acquirer's market value). The latter splits address the concern that deal size correlates with acquirer size since larger acquirers are more likely to buy bigger targets than smaller acquirers are.

[18]The positive coefficient on the Negative CAR indicator could be partially driven by the pattern that CEOs are often fired following poor acquisitions (Lehn and Zhao (2006)), which increases the likelihood of promotion to CEO and potentially increases the likelihood of gaining a board seat for experienced SMs.

TABLE 9

SM Labor Outcomes and Experience, Deal Features Split

Table 9 displays results from regressing senior manager (SM) labor market outcomes on a set of controls and various experience indicators. In models 1–3, we split experienced SMs by whether the deal(s) has positive or negative CAR(s). In models 4–6, we split experienced SMs by the size of the deal(s), where the tercile cutoffs are $215 and $572 million. Panel A (B) uses manager and year (firm-year) fixed effects. We use the same vector of controls, but the coefficients are not reported. Standard errors are clustered by firm. We calculate the *p*-value for a test of differences between the coefficients on Positive CAR and Negative CAR as well as differences between Low deal value and High deal value. *, **, and *** denote significance at the 10%, 5%, and 1% levels. Variable definitions are provided in the Appendix.

	ln(TOTAL_COMPENSATION)	BOARD_SEAT	CEO	ln(TOTAL_COMPENSATION)	BOARD_SEAT	CEO
	1	2	3	4	5	6
Panel A. SM and Year Fixed Effects						
Positive CAR	0.113*	0.046*	0.039**			
	(0.059)	(0.024)	(0.015)			
Negative CAR	0.028	0.079***	0.063***			
	(0.047)	(0.025)	(0.019)			
Low deal value				0.085	0.089***	0.057**
				(0.068)	(0.029)	(0.024)
Mid deal value				0.098*	0.031	0.048**
				(0.056)	(0.026)	(0.020)
High deal value				0.030	0.069**	0.047**
				(0.064)	(0.029)	(0.021)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	SM and year	SM and year	SM and year	SM and year	SM and year	SM and year
No. of obs.	46,942	43,548	46,942	46,942	43,548	46,942
Adj. R^2	0.735	0.398	0.099	0.735	0.398	0.099
p-value for differences	0.260	0.341	0.321	0.556	0.626	0.754
Panel B. Firm-Year Fixed Effects						
Positive CAR	0.124***	0.023	0.029***			
	(0.031)	(0.016)	(0.011)			
Negative CAR	0.177***	0.061***	0.050***			
	(0.036)	(0.022)	(0.013)			
Low deal value				0.183***	0.070***	0.049***
				(0.040)	(0.024)	(0.014)
Mid deal value				0.106**	0.025	0.038**
				(0.042)	(0.019)	(0.015)
High deal value				0.168***	0.035	0.034**
				(0.040)	(0.028)	(0.016)
Control	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Firm-year	Firm-year	Firm-year	Firm-year	Firm-year	Firm-year
No. of obs.	49,695	45,669	49,695	49,695	45,669	49,695
Adj. R^2	0.659	0.053	−0.027	0.659	0.053	−0.027
p-value for differences	0.265	0.162	0.218	0.791	0.343	0.480

public targets but are rarely available for deals involving private or subsidiary targets. Therefore, we focus on 198 deals involving public targets in which SMs gain experience.[19] In 105 of these deals, the background provides detailed information on SM activities. Because these backgrounds come from public-public

[19]We searched for backgrounds in over 200 deals with private or subsidiary targets, but fewer than 4% of these deals disclosed a background. For the198 deals involving public targets, we find backgrounds in 187 of them (94%). However, 29 backgrounds do not provide executive names and 53 backgrounds do not name the experienced SM, leaving 105 deals with detailed backgrounds on the activities of the experienced SM.

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TABLE 10

SM Involvement in Acquisitions

Table 10 displays summary statistics from searching "Background of the Merger" sections of acquirer and target filings. Panel A shows information on the length of merger discussions and how long SMs are involved in those discussions. Panel B shows the frequency of each SM function. Note that the functions are not mutually exclusive. Panel C shows the frequency of SMs involved in 1, 2, 3, or 4 or more functions in a given deal.

Panel A. Chronology Measures

	N	Mean	Std. Dev.	25th	50th	75th
Total span of merger discussion (days)	105	93	62	48	76	126
Percent of SM involvement	105	80%	31%	59%	100%	100%

Panel B. SM Functions

	Freq.	Total Deals	Pct.
Exploratory talks	73	105	70%
Negotiation	50	105	48%
Due diligence	41	105	39%
Investment bank interaction	26	105	25%
Integration	17	105	16%
Board interaction	11	105	10%
Non-specific involvement	9	105	9%

Panel C. Number of Functions

1 function	38	105	36%
2 functions	34	105	32%
3 functions	18	105	17%
4 or more functions	15	105	14%

deals, the acquirers are larger, on average, than acquirers for the other deals in our sample. They also tend to have lower leverage and invest more in R&D. However, we find no difference in mean profitability, market-to-book ratio, stock price change, or deal characteristics in the sample with backgrounds compared to other deals.[20]

We use hand-collected data from backgrounds to create 2 measures.[21] The first measure is based on the chronology of the deal and captures the percentage of time in which the SM is involved. To construct this measure, we calculate the total span of the merger discussions as the number of days from the first discussion to the date announced. Next, we calculate the SM's involvement as the number of days from the first mention of the SM to the date announced. Then, the percentage of discussion time in which an SM was involved is simply the days of the SM's involvement divided by the total span of the merger discussions. Panel A of Table 10 shows that the average merger discussion spans 93 days and the SM is involved in 80% of that time period. The median percentage involvement of the SM is 100%, as SMs are involved from the first acquisition discussion in 66 of 105 deals.

The second measure we create from the backgrounds is based on the SM's function within the merger. It is different than the chronology measure since it is

[20]We compare the deal characteristics and acquirer characteristics of the 198-deal sample to the remaining 2,561 deals. Deal characteristics, such as method of payment, relative size, and whether the acquirer and target operate in the same industry, are statistically indistinguishable between these 2 samples. Deal and acquirer characteristics are nearly identical between the sample of 105 deals with detailed backgrounds and the 93 deals (198 minus 105) where SM activities could not be coded. Further, the year distribution for the sample of 198 deals is similar to the full sample.

[21]We thank Denis Sosyura for suggesting these measures to us.

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based on descriptions of activities rather than the timing of events (though there is a loose order to the functions). We group SM functions into 7 non-mutually exclusive categories. "Exploratory talks" includes discussions with target executives regarding a potential acquisition, identification of potential targets, and similar activities. "Negotiation" includes negotiating terms of the merger, explicit discussions of the price paid for the target, conversations regarding valuation, and estimation of synergies. "Due diligence" includes general due diligence; visits to the target's facilities; and discussions of the target's products, customers, market position, and legal proceedings. "Investment bank interaction" includes meetings, correspondence, and conversations with target or acquirer investment banking firms or financial advisors. "Integration" includes discussions on how to integrate the firm's operations, employees, and management. "Board interaction" includes attending board meetings and negotiating on behalf of the acquirer board. "Non-specific involvement" is used when none of the other categories applies. Table IA5 in the Supplementary Material provides examples of the functions as well as the chronology measure.

Panel B of Table 10 shows the breakdown of how often SMs are involved in each of these functions. In 70% of deals, SMs are involved in exploratory talks. In nearly half of the deals, SMs participate in negotiations (48%). The third most common activity is due diligence (39%). In a quarter of deals, SMs interact with investment banks, while in 16% of deals, SMs are involved in integration. The least common activity is board interaction (10%). Panel C shows that about half of SMs (49%) are involved in 2 or 3 functions. Sometimes SMs serve many functions, as seen by the 15 SMs (14%) who were involved in 4 or more activities.

In summary, based on our extensive reading of M&A backgrounds, SMs who are named in press releases appear to have meaningful involvement in acquisitions. SMs appear to be involved in acquisitions near the start of the process (80% average on our chronology measure) and frequently involved in exploratory talks and negotiations. This involvement likely confers valuable experience that could benefit the current firm or contribute to future job market rewards for the SM. These findings provide new insights into the roles of SMs in M&As.

In Table 11, we use these background measures (the number of functions and percentage of time the SM is involved in deal discussions) as independent variables in our analysis. The benefit of these measures is that we have detailed data on the SM's involvement in the deal, but the downside is that we can only collect these data for a subsample of deals with the necessary SEC filings. As such, these measures underestimate SM involvement in acquisitions. Nevertheless, we find weak evidence that SMs involved in a greater breadth of distinct functions receive greater labor market rewards. The coefficient on the number of deal functions measure is positive and statistically significant in the board seat regression in Panel A and in the compensation regression in Panel B.[22] In both panels, we see evidence that SMs who are involved earlier in the deal process, and likely spend more time working on

[22]The board seat results in Panel A of Table 10 are driven by external board seats rather than internal board seats. This differs from Tables 5–9, where the board seat results are driven by both internal and external board seats.

TABLE 11

SM Labor Outcomes and SEC Background Involvement

Table 11 displays results from regressing senior manager (SM) labor market outcomes on a set of controls and alternative measures of merger and acquisition experience. For this table, we use data from statements filed with the Securities and Exchange Commission (SEC) to capture experience. We use the count of distinct tasks an SM performed (Number of deal functions) as well as the percentage of days in which the SM is involved in the merger leading up to the announcement (Percent of SM involvement). Panel A (B) uses manager and year (firm-year) fixed effects. We use the same vector of controls, but the coefficients are not reported. Standard errors are clustered by firm. *, **, and *** denote significance at the 1%, 5%, and 10% levels. Variable definitions are provided in the Appendix.

Panel A. SM and Year Fixed Effects

	ln(TOTAL_ COMPENSATION)	BOARD_ SEAT	CEO	ln(TOTAL_ COMPENSATION)	BOARD_ SEAT	CEO
	1	2	3	4	5	6
Number of deal functions	0.029	0.055**	0.018			
	(0.040)	(0.025)	(0.014)			
Percent of SM involvement				0.279***	0.202**	0.070
				(0.107)	(0.082)	(0.053)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	SM and year	SM and year	SM and year	SM and year	SM and year	SM and year
No. of obs.	46,942	43,548	46,942	46,942	43,548	46,942
Adj. R^2	0.735	0.398	0.098	0.735	0.398	0.098
Panel B. Firm-Year Fixed Effects						
Number of deal functions	0.044*	−0.004	0.018			
	(0.025)	(0.016)	(0.012)			
Percent of SM involvement				0.227**	0.034	0.056*
				(0.094)	(0.049)	(0.033)
Control	Yes	Yes	Yes	Yes	Yes	Yes
Fixed effects	Firm-year	Firm-year	Firm-year	Firm-year	Firm-year	Firm-year
No. of obs.	49,695	45,669	49,695	49,695	45,669	49,695
Adj. R^2	0.659	0.052	−0.028	0.659	0.052	−0.028

the deal, experience greater labor market rewards. The coefficient on the percentage of SM involvement measure is positive and statistically significant in 4 of the 6 specifications. Overall, this evidence indicates that SMs who are more involved in the deal experience greater labor market rewards.

VI. Conclusion

We examine the labor market for non-CEO SMs using hand-collected data on SM involvement in acquisitions. We benchmark labor market outcomes within managers and within top management teams and find that SMs with M&A experience have greater compensation, more future board seats, and a greater likelihood of promotion to CEO. The positive effects of acquisition experience influence labor market outcomes for many years following the acquisition but decline over time. Further, each additional acquisition has only an incremental impact on labor market outcomes. Deal quality does not influence labor market rewards, consistent with findings in the literature studying CEO acquisition experience. Using detailed data on SM involvement in the acquisition of public targets, we find that greater SM involvement in the acquisition is associated with better labor market outcomes.

We provide new evidence on the roles SMs take in acquisitions and find that SMs often conduct exploratory talks with potential targets, help with negotiations,

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and perform due diligence. Overall, our evidence demonstrates that SMs improve their human capital through M&A experience, which is rewarded in the labor market. This finding contributes to the literature on non-CEO labor markets, which remains an issue with limited attention, as well as the literature on professional experience. Future research could continue along these lines, examining how other SM characteristics and work histories affect career trajectories and labor market outcomes.

Appendix. Variable Construction

M&A_EXPERIENCE: Dummy variable that equals 1 if the SM is mentioned in a press release or news article around the announcement of an acquisition that closes prior to the given fiscal year end. *Source:* Hand-collected data.

CEO: Dummy that equals 1 if the SM becomes CEO of the current firm or any ExecuComp firm in the following year. *Source:* ExecuComp.

BOARD_SEAT: Dummy that equals 1 if the manager holds a board seat at any public firm in the following year. This variable captures board seats at the SM's own firm (internal) and other firms (external).

INTERNAL_BOARD_SEAT: Dummy that equals 1 if the manager holds an internal board seat in the following year.

EXTERNAL_BOARD_SEAT: Dummy that equals 1 if the manager holds an external board seat in the following year.

ln(TOTAL_COMPENSATION): The natural logarithm of TDC1 + 1. *Source:* ExecuComp data, adjusted for the change in reporting requirements as in Kini and Williams (2012) and Coles, Daniel, and Naveen (2014).

ln(BONUS): The natural logarithm of BONUS + 1. *Source:* ExecuComp data, adjusted for the change in reporting requirements as in Kini and Williams (2012) and Coles, Daniel, and Naveen (2014).

ln(OTHER_COMPENSATION): The natural logarithm of OTHER_COMPENSATION + 1. *Source:* ExecuComp data, adjusted for the change in reporting requirements as in Kini and Williams (2012) and Coles, Daniel, and Naveen (2014).

ln(SALARY): The natural logarithm of SALARY + 1. *Source:* ExecuComp data.

ln(STOCK_AND_OPTIONS): The natural logarithm of STOCK_AND_OPTIONS + 1. *Source:* ExecuComp data, adjusted for the change in reporting requirements as in Kini and Williams (2012) and Coles, Daniel, and Naveen (2014).

SIZE: The natural logarithm of book assets (AT). *Source:* Compustat.

ROA: EBITDA/AT. *Source:* Compustat.

STOCK_PRICE_CHANGE: Percentage change in stock price (PRCC_F) from the previous year. *Source:* Compustat.

LEVERAGE: DLTT + DLC upon AT. *Source:* Compustat data.

MARKET_TO_BOOK: (AT + (CSHO × PRCC_F)-CEQ)/AT. Compustat data.

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R&D: XRD upon AT or 0 when XRD is missing. Compustat data item.

COO_OR_PRESIDENT: Dummy that equals 1 for SMs where TITLEANN in ExecuComp contains the phrase "Chief Operating Officer," "COO," "President," or "Pres." The dummy is set to 0 if i) these phrases are not in TITLEANN, ii) "President" is part of the phrase "Vice President," or iii) TITLEANN contains phrases indicating that the SM is the CEO or Board Chair.

EXECUCOMP_PAY_RANK: Rank is set to 1 for the lowest-paid executive at the firm in a given year, 2 for the second lowest-paid executive, etc. We calculate this variable based on TDC1, and we include all executives listed in ExecuComp in the calculation.

SM_ON_EARNINGS_CALL: Dummy that equals 1 if the SM spoke on a quarterly earnings conference call during the fiscal year. Conference call data provide the names of each speaker on each earnings call for a large sample of S&P 1500 firms from 2001 to 2012. The variable is set to missing for SMs of firms that are not in the conference call transcript database.

Supplementary Material

To view supplementary material for this article, please visit http://dx.doi.org/10.1017/S0022109020000411.

References

Aggarwal, R., and A. Samwick. "Performance Incentives within Firms: The Effect of Managerial Responsibility." *Journal of Finance*, 58 (2003), 1613–1649.

Ahern, K., and D. Sosyura. "Who Writes the News? Corporate Press Releases during Merger Negotiations." *Journal of Finance*, 69 (2014), 241–291.

Bao, J., and A. Edmans. "Do Investment Banks Matter for M&A Returns?" *Review of Financial Studies*, 24 (2013), 2286–2315.

Becker, G. "Investment in Human Capital: A Theoretical Analysis." *Journal of Political Economy*, 70 (1962), 9–49.

Bizjak, J.; M. Lemmon; and L. Naveen. "Does the Use of Peer Groups Contribute to Higher Pay and Less Efficient Compensation?" *Journal of Financial Economics*, 90 (2008), 152–168.

Boone, A.; L. Field; J. Karpoff; and C. Raheja. "The Determinants of Corporate Board Size and Composition: An Empirical Analysis." *Journal of Financial Economics*, 85 (2007), 66–101.

Cameron, A. C., and D. Miller. "A Practitioner's Guide to Cluster-Robust Inference." *Journal of Human Resources*, 50 (2015), 317–372.

Chava, S., and A. Purnanandam. "CEOs versus CFOs: Incentives and Corporate Policies" *Journal of Financial Economics*, 97 (2010), 263–278.

Cichello, M. S.; C. E. Fee; C. J. Hadlock; and R. Sonti. "Promotions, Turnover, and Performance Evaluation: Evidence from the Careers of Division Managers." *Accounting Review*, 84 (2009), 1119–1143.

Coles, J.; N. Daniel; and L. Naveen. "Boards: Does One Size Fit All?" *Journal of Financial Economics*, 87 (2008), 329–356.

Coles, J.; N. Daniel; and L. Naveen. "Co-opted Boards." *Review of Financial Studies*, 27 (2014), 1751–1796.

Custodio, C.; M. Ferreira; and P. Matos. "Generalists versus Specialists: Lifetime Work Experience and Chief Executive Officer Pay." *Journal of Financial Economics*, 108 (2013), 471–492.

Datta, S., and M. Iskandar-Datta. "Upper-Echelon Executive Human Capital and Compensation: Generalist vs. Specialist Skills." *Strategic Management Journal*, 35 (2014), 1853–1866.

Dittmar, A., and R. Duchin. "Looking in the Rearview Mirror: The Effect of Managers' Professional Experience on Corporate Financial Policy." *Review of Financial Studies*, 29 (2016), 565–602.

https://doi.org/10.1017/S0022109020000411 Published online by Cambridge University Press

Duchin, R.; A. Goldberg; and D. Sosyura. "Spillovers Inside Conglomerates: Incentives and Capital." *Review of Financial Studies*, 30 (2017), 1696–1743.
Egan, M.; G. Matvos; and A. Seru. "The Market for Financial Adviser Misconduct." *Journal of Political Economy*, 127 (2019), 233–295.
Ellis, J.; L. Guo; and S. Mobbs. "How Does Forced CEO Turnover Experience Affect Directors?" *Journal of Financial and Quantitative Analysis* (2020). https://doi.org/10.1017/S0022109020000307.
Fama, E. "Agency Problems and the Theory of the Firm." *Journal of Political Economy*, 88 (1980), 288–307.
Fee, C. E., and C. Hadlock. "Raids, Rewards, and Reputations in the Market for Managerial Talent." *Review of Financial Studies*, 16 (2003), 1315–1357.
Fee, C. E., and C. Hadlock. "Management Turnover across the Corporate Hierarchy." *Journal of Accounting and Economics*, 37 (2004), 3–38.
Gillan, S.; J. Hartzell; A. Koch; and L. Starks. "Getting the Incentives Right: Backfilling and Biases in Executive Compensation Data." *Review of Financial Studies*, 31 (2017), 1460–1498.
Gillan, S., and N. Nguyen. "On the Labor Market for Chief Financial Officers." Working Paper, University of Georgia and Marquette University (2017).
Gormley, T., and D. Matsa. "Common Errors: How to (and Not to) Control for Unobserved Heterogeneity." *Review of Financial Studies*, 27 (2014), 617–661.
Greene, W. "The Behavior of the Maximum Likelihood Estimator of Limited Dependent Variable Models in the Presence of Fixed Effects." *Econometrics Journal*, 7 (2004), 98–119.
Griffin, J.; S. Kruger; and G. Maturana. "Do Labor Markets Discipline? Evidence from RMBS Bankers." *Journal of Financial Economics*, 133 (2019), 726–750.
Harford, J., and R. Schonlau. "Does the Director Labor Market Offer Ex Post Settling-Up for CEOs? The Case of Acquisitions." *Journal of Financial Economics*, 110 (2013), 18–36.
Jiang, J.; K. Petroni; and I. Wang. "CFOs and CEOs: Who Have the Most Influence on Earnings Management?" *Journal of Financial Economics*, 96 (2010), 513–526.
Johnson, S.; A. Kolasinski; and J. Nordlund. "CEO Narcissism, Human Capital, and Firm Value." Working Paper, Texas A&M University and Louisiana State University (2018).
Karpoff, J.; R. Schonlau; and E. Wehrly. "Do Takeover Defense Indices Measure Takeover Deterrence?" *Review of Financial Studies*, 30 (2017), 2359–2412.
Kim, J.; Y. Li; and L. Zhang. "CFOs versus CEOs: Equity Incentives and Crashes." *Journal of Financial Economics*, 101 (2011), 713–730.
Kini, O., and R. Williams. "Tournament Incentives, Firm Risk, and Corporate Policies." *Journal of Financial Economics*, 103 (2012), 350–376.
Kubick, T., and G. B. Lockhart. "Industry Tournament Incentives and Stock Price Crash Risk." Working Paper, University of Kansas and Clemson University (2017).
Lehn, K., and M. Zhao. "CEO Turnover after Acquisitions: Are Bad Bidders Fired?" *Journal of Finance*, 49 (2006), 1759–1811.
Linck, J.; J. Netter; and T. Yang. "The Determinants of Board Structure." *Journal of Financial Economics*, 87 (2008), 308–328.
Malmendier, U.; V. Pezone; and H. Zheng. "Managerial Duties and Managerial Biases." Working Paper, University of California, Berkeley (2019).
Masulis, R., and S. Mobbs. "Are All Inside Directors the Same? Evidence from the External Directorship Market." *Journal of Finance*, 66 (2011), 823–872.
Mian, S. "On the Choice and Replacement of Chief Financial Officers." *Journal of Financial Economics*, 60 (2001), 143–175.
Mobbs, S. "CEOs under Fire: The Effects of Competition from Inside Directors on Forced CEO Turnover and CEO Compensation." *Journal of Financial and Quantitative Analysis*, 48 (2013), 669–698.
Murphy, K., and J. Zabojnik. "CEO Pay and Appointments: A Market-Based Explanation for Recent Trends." *American Economic Review*, 94 (2004), 192–196.
Murphy, K., and J. Zabojnik. "Managerial Capital and the Market for CEOs." Working Paper, University of Southern California and Queen's University (2007).
Naveen, L. "Organizational Complexity and Succession Planning." *Journal of Financial and Quantitative Analysis*, 41 (2006), 661–683.
Parrino, R. "CEO Turnover and Outside Succession A Cross-Sectional Analysis." *Journal of Financial Economics*, 46 (1997), 165–197.
Petersen, M. "Estimating Standard Errors in Finance Panel Data Sets: Comparing Approaches." *Review of Financial Studies*, 22 (2009), 435–80.
Zingales, L. "In Search of New Foundations." *Journal of Finance*, 55 (2000), 1623–1653.

https://doi.org/10.1017/S0022109020000411 Published online by Cambridge University Press